

IN THE SPECIFICATION

Please amend the specification as follows:

The paragraph beginning at page 1, line 10 is amended as follows:

The importance of minimizing contamination during semiconductor fabrication processes has been recognized since the early days of the industry. Miniaturization is the process of crowding more semiconductive devices onto a smaller substrate area in order to achieve better device speed, lower energy usage, and better device portability, among others. New processing methods must often be developed to enable miniaturization to be realized. As semiconductor devices have become smaller and more complex, cleanliness requirements have become increasingly stringent, especially for devices with submicron critical dimensions, because the ability to reliably create multi-level metallization structures is increasingly vital. The importance of cleaning and conditioning submicron devices during the fabrication process is also emphasized because small-scale residues that may not have seriously affected the performance of these devices previously, may now cause unacceptable yield loss.

The paragraph beginning at page 1, line 22 is amended as follows:

Dry development processes are used in preparing patterned hard masks. The removal of photoresist material (hereinafter "resist") is challenging since the hard mask material is often amorphous carbon, and the resist is often a carbon-rich composition. During the dry development process, some dry-developed resist can become pooled-up on surfaces that need to be clear for subsequent processing. The pooled-up resist presents a challenge for the fabricator because it represents an unacceptably dirty wafer for further processing. A further challenge is to remove resist from the edges of a wafer, as the resist is often thicker (known as an "edge bead") near the edges due to its mode of being applied to the wafer. Consequently, as residues from the resist tend to peeled-up pool in some areas and as edge-bead resist tends to be present at the edge of the wafer, the total removal of photoresist material may become difficult. Unremoved resist can be mobilized during subsequent processing that creates further undesirable results during the etch process that uses the hard mask.

The paragraph beginning at page 3, line 7 is amended as follows:

In an embodiment, a second surface treating composition is added to the aqueous ammonium hydroxide and hydrogen peroxide solution. In an embodiment, the second surface treating composition includes aqueous sulfuric acid and citric acid solution. In an embodiment, the second surface treating composition includes aqueous sulfuric acid and hydrogen peroxide solution. In an embodiment, the second surface treating composition includes Aleg® 820 solution, a trademark of, and manufactured by Mallinckrodt Baker, Inc. of St. Louis, Missouri. In an embodiment, the second surface treating composition includes ozone with dilute ammonium hydroxide. In an embodiment, the second surface treating composition includes, and ozone with dilute hydrogen fluoride; often referred to as "fluorozone".

The paragraph beginning at page 9, line 4 is amended as follows:

In an embodiment, a second surface treating composition is added to the aqueous ammonium hydroxide and hydrogen peroxide solution. In an embodiment, the second surface treating composition includes aqueous sulfuric acid and citric acid solution. In an embodiment, the second surface treating composition includes aqueous sulfuric acid and hydrogen peroxide solution. In an embodiment, the second surface treating composition includes Aleg® 820 solution, a trademark of, and manufactured by Mallinckrodt Baker, Inc. of St. Louis, Missouri. In an embodiment, the second surface treating composition includes ozone with dilute ammonium hydroxide in a ratio of about 1000:1:100 H₂O:O₃:NH₄OH to about 1000:2:100.

The paragraph beginning at page 11, line 4 is amended as follows:

In another example, a plurality proportion of aqueous ammonium hydroxide and hydrogen peroxide solution is provided in an H₂O:NH₄OH:H₂O₂ concentration ratio of about 100:3:2. A first minority proportion of aqueous ammonium hydroxide and hydrogen peroxide solution is provided in an H₂O:NH₄OH:H₂O₂ concentration ratio of about 5:1:1. A second minority proportion of at least one solution selected from aqueous sulfuric acid and citric acid solution, aqueous sulfuric and hydrogen peroxide solution, Aleg® 820 solution, a trademark of, and manufactured by Mallinckrodt Baker, Inc. of St. Louis, Missouri, ozone with dilute ammonium hydroxide, and ozone with dilute hydrogen fluoride. An amorphous carbon hard

mask is dry developed over a semiconductive substrate. A surface treating process is undertaken with the given solution mixture.